

WHAT IS CLAIMED IS:

1 1. For use in a CDMA wireless network comprising a plurality
2 of base stations capable of communicating with a plurality of
3 mobile stations located in a coverage area of said CDMA wireless
4 network, a partitioned selection and distribution unit (SDU)
5 comprising:

6 a first controller capable of performing radio dependent
7 functions, wherein said radio dependent functions are related to a
8 transfer of wireless traffic between said plurality of base
9 stations and said plurality of mobile stations; and

10 a second controller disposed apart from said first
11 controller and capable of performing radio independent functions,
12 wherein said radio independent functions are related to a transfer
13 of at least one of voice traffic, data traffic, and signaling
14 traffic between said CDMA wireless network and a wired network
15 coupled to said CDMA wireless network.

1 2. The partitioned selection and distribution unit set forth
2 in Claim 1 wherein said radio dependent functions comprise
3 selection of preferred ones of incoming wireless traffic frames
4 received from said plurality of base stations.

1 3. The partitioned selection and distribution unit set forth
2 in Claim 1 wherein said radio dependent functions comprise
3 controlling a transmission power of a selected one of said
4 plurality of mobile stations.

1 4. The partitioned selection and distribution unit set forth
2 in Claim 1 wherein said radio independent functions comprise a
3 decompression of voice traffic from a first bit rate to a second
4 bit rate.

1 5. The partitioned selection and distribution unit set forth
2 in Claim 4 wherein said decompression is performed by a vocoder.

1 6. The partitioned selection and distribution unit set forth
2 in Claim 1 wherein said radio independent functions comprise a
3 transcoding of circuit data from a first bit rate to a second bit
4 rate.

1 7. The partitioned selection and distribution unit set forth
2 in Claim 1 wherein said radio independent functions comprise a
3 conversion of data frames received from said base stations to data
4 packets suitable for transmission over a packet data network
5 coupled to said CDMA wireless network.

1 8. The partitioned selection and distribution unit set forth
2 in Claim 1 wherein said first controller is disposed in one of said
3 plurality of base stations and said second controller is disposed
4 in a mobile switching center (MSC) associated with said CDMA
5 wireless network.

1 9. A CDMA wireless network capable of communicating with a
2 plurality of mobile stations located in a coverage area of said
3 CDMA wireless network, said CDMA wireless network comprising;

4 a plurality of base stations capable of wirelessly
5 communicating with said plurality of mobile stations, at least one
6 of said plurality of base stations comprising a first controller
7 capable of performing radio dependent functions, wherein said radio
8 dependent functions are related to a transfer of call traffic
9 between said plurality of base stations and said plurality of
10 mobile stations; and

11 a mobile switching center capable of transferring said
12 call traffic between said plurality of base stations and a wired
13 network coupled to said CDMA wireless network, said mobile
14 switching center comprising a second controller capable of
15 performing radio independent functions, wherein said radio
16 independent functions are related to a transfer of at least one of
17 voice traffic, data traffic, and signaling traffic between said
18 CDMA wireless network and said wired network.

1 10. The CDMA-based wireless network set forth in Claim 9
2 wherein said radio dependent functions comprise selection of
3 preferred ones of incoming wireless traffic frames received from
4 said plurality of base stations.

1 11. The CDMA-based wireless network set forth in Claim 9
2 wherein said radio dependent functions comprise controlling a
3 transmission power of a selected one of said plurality of mobile
4 stations.

1 12. The CDMA-based wireless network set forth in Claim 9
2 wherein said radio independent functions comprise a decompression
3 of voice traffic from a first bit rate to a second bit rate.

1 13. The CDMA-based wireless network set forth in Claim 12
2 wherein said decompression is performed by a vocoder.

1 14. The CDMA-based wireless network set forth in Claim 9
2 wherein said radio independent functions comprise a transcoding of
3 circuit data from a first bit rate to a second bit rate.

1 15. The CDMA-based wireless network set forth in Claim 9
2 wherein said radio independent functions comprise a conversion of
3 data frames received from said base stations to data packets
4 suitable for transmission over a packet data network coupled to
5 said CDMA wireless network.

1 16. The CDMA-based wireless network set forth in Claim 9
2 wherein said signaling traffic comprises user-generated commands
received from a selected one of said plurality of mobile stations.

1 17. A method of operating a CDMA wireless network comprising
2 a plurality of base stations capable of communicating with a
3 plurality of mobile stations located in a coverage area of the CDMA
4 wireless network, the method comprising the steps of:

5 receiving in at least one base station at least one of
6 voice traffic, data traffic, and signaling traffic transmitted by
7 a selected one of the plurality of mobile stations;

8 performing in the at least one base station radio
9 dependent functions, wherein the radio dependent functions are
10 related to a transfer of wireless traffic between the at least one
11 base station and the selected mobile station; and

12 performing radio independent functions in a mobile
13 switching station of the CDMA wireless network, wherein the radio
14 independent functions are related to a transfer of at least one of
15 the at least one of voice traffic, data traffic, and signaling
16 traffic between the CDMA wireless network and a wired network
17 coupled to the CDMA wireless network.

1 18. The method set forth in Claim 17 wherein the radio
2 dependent functions comprise at least one of selection of preferred
3 ones of incoming wireless traffic frames received from the
4 plurality of base stations and controlling a transmission power of
5 a selected one of the plurality of mobile stations.

1 19. The method set forth in Claim 17 wherein the radio
2 independent functions comprise at least one of decompressing voice
3 traffic from a first bit rate to a second bit rate and transcoding
4 circuit data from a first bit rate to a second bit rate.

1 20. The method set forth in Claim 17 wherein the radio
2 independent functions comprise a conversion of data frames received
3 from the plurality of base stations to data packets suitable for
4 transmission over a packet data network coupled to the CDMA
5 wireless network station.

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